

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
)  
Kenji MASUI, et al. ) Group Art Unit: *Not Yet Assigned*  
)  
Div. of Application No.: 09/887,141 ) Examiner: *Not Yet Assigned*  
)  
Filed: Herewith )  
)  
For: SUBSTRATE CLEANING METHOD )  
AND SUBSTRATE CLEANING )  
APPARATUS )

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.97(b)**

Pursuant to 37 C.F.R. §§ 1.56 and 1.97(b), Applicants bring to the attention of the Examiner the documents listed on the attached PTO-1449. Applicants file this Information Disclosure Statement together with the above-referenced divisional application.

Applicants previously submitted copies of the listed documents, or they were cited by the Examiner in prior application No. 09/887,141, filing date June 25, 2001, upon which Applicants rely for the benefits provided in 35 U.S.C. § 120. Applicants respectfully request that the Examiner consider the listed documents, and indicate that they were considered by making appropriate notations on the attached form.

The following are listed on the accompanying PTO-1449 and are in a non-English language. The statement of relevance, as indicated in the parent case, is the following:

1. Japanese Patent Laid Open (KOKAI) No. H09-146079 discloses a substrate of glass, which is etched or cleaned by chemicals and DIW (De-Ionized Water), and is spin dried at the low acceleration less than 350 rpm/sec. so that the frictional force between the liquid and the surface of the substrate decreases. And/or before the liquid on the substrate is removed by rotating the substrate at the high revolution, the rotation is stopped for 10-30 seconds, in order that the liquid is exposed in the atmosphere. Consequently the electrical resistance of the liquid decreases.

2. Japanese Patent Laid Open (KOKAI) No. H04-287922 discloses a process of cleaning a substrate, such as a semiconductor wafer or an LCD substrate, in which the DIW (De-Ionized Water) rinsing step starts before the chemicals (For example diluted HF) step ends, and the spin drying step starts before the DIW rinsing step ends. During the spin drying step, an inert gas is blown onto the substrate. The substrate is not exposed in the atmosphere including water vapor. As a result, colloidal silica, the origin of water mark, is not formed.

3. Japanese Patent Laid Open (KOKAI) No. H11-54471 discloses an apparatus consisting of a spinning chuck which holds a semiconductor wafer, and a chemical supply which can apply the vibration to the chemicals. The surface of the wafer from the center to the edge is covered with the vibrator, and the bottom of the vibrator is immersed in the chemicals (Fig. 2). Consequently, the pressure of the sound wave generated by the vibrator does not decrease, and cavitation is not mixed into the chemicals.

This submission does not represent that a search has been made or that no better art exists, and does not constitute an admission that each or all of the listed documents are material or constitute "prior art." If the Examiner applies any of the documents as prior art against any claim in the application and Applicants determine that the cited documents do not constitute

"prior art" under United States law, Applicants reserve the right to present to the Office the relevant facts and law regarding the appropriate status of such documents.

Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should one or more of the documents be applied against the claims of the present application.

If there is any fee due in connection with the filing of this Statement, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: June 30, 2003

By: 

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## INFORMATION DISCLOSURE CITATION

|                  |                     |                    |                         |
|------------------|---------------------|--------------------|-------------------------|
| Atty. Docket No. | 04329.2584-01       | Div. of Appln. No. | 09/887,141              |
| Applicant        | Kenji MASUI, et al. |                    |                         |
| Filing Date      | Herewith            | Group:             | <i>Not Yet Assigned</i> |

| U.S. PATENT DOCUMENTS |  |                 |            |                 |       |           |                            |
|-----------------------|--|-----------------|------------|-----------------|-------|-----------|----------------------------|
| Examiner Initial*     |  | Document Number | Issue Date | Name            | Class | Sub Class | Filing Date If Appropriate |
|                       |  | 5,882,433       | 03/1999    | Ueno            |       |           |                            |
|                       |  | 5,906,687       | 05/1999    | Masui et al.    |       |           |                            |
|                       |  | 5,983,909       | 11/1999    | Yeol et al.     |       |           |                            |
|                       |  | 6,039,815       | 03/2000    | Yeol et al.     |       |           |                            |
|                       |  | 6,071,376       | 06/2000    | Nagamura et al. |       |           |                            |
|                       |  | 6,277,205       | 08/2001    | Nagamura et al. |       |           |                            |
|                       |  |                 |            |                 |       |           |                            |

| FOREIGN PATENT DOCUMENTS |  |                 |                  |         |       |           |                       |
|--------------------------|--|-----------------|------------------|---------|-------|-----------|-----------------------|
|                          |  | Document Number | Publication Date | Country | Class | Sub Class | Translation Yes or No |
|                          |  | 4-287922        | 10/1992          | Japan   |       |           | No                    |
|                          |  | 9-146079        | 06/1997          | Japan   |       |           | No                    |
|                          |  | 11-54471        | 02/1999          | Japan   |       |           | No                    |
|                          |  |                 |                  |         |       |           |                       |
|                          |  |                 |                  |         |       |           |                       |

| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) |  |
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|---|---|
| Examiner  | Date Considered   |
| *Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. |   |
| Form PTO 1449   | Patent and Trademark Office - U.S. Department of Commerce |